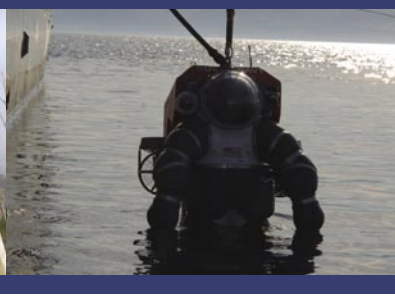




Sea Base

PLATFORMS
AIRCRAFT

C-37 Executive Transport

Description
The Navy maintains executive transport airlift to support the Navy Departments' DoD Directive 4500.43 designated "required users." Required users must use non-commercial air transport and have specified needs for secure communications and security. The airlift is currently provided by two C-37s (Gulfstream V/550), two C-20Ds (Gulfstream III) aircraft, one C-20A, and one VP-3A Orion. The VP-3A Orion, already at the end of its service life, is being operated on waivers and will be retired. The C-37 Gulfstream V aircraft will eventually replace the VP-3A, substantially lowering operating costs. The C-37 meets all known ICAO-imposed Air Traffic Management communications, navigation, and surveillance requirements through FY 2007.

Status
Congress funded the first C-37 in FY 2001. A second aircraft was procured in FY 2004, and two more placed on contract in 2005 (one was a Congressional add). The Navy intends to procure a fifth aircraft in the FYDP. The first aircraft was delivered to the Navy in August 2002 and is based in NAF Washington, D.C. The second C-37 arrived in February 2005 and is also based in NAF Washington, D.C. Additionally, the Navy acquired a surplus C-20A in order to meet CNE executive transportation requirements from February 2004 until delivery of the fifth C-37 in FY 2011. The Navy is using standard commercial practices to acquire the C-37, which is maintained under full civilian contractor logistics support and warranty—20 years for airframe, five years for engines, and six years for the auxiliary power unit.

Developers
Gulfstream (Division of General Dynamics); Savannah, Georgia

C-40A Clipper

Description

The Naval Air Force Reserve provides 100 percent of the Navy's organic intra-theater logistics airlift capability-Navy Unique Fleet Essential Airlift (NUFEA). NUFEA provides Navy Combatant Commanders with short-notice, fast response intra-theater logistics support for naval power projection worldwide. Seventeen remaining C-9 aircraft, which currently perform the majority of these services, are being replaced by the C-40A Clipper, a modified Boeing 737-700 series aircraft. This state-of-the-art aircraft can transport 121 passengers (passenger configuration), 40,000 pounds of cargo (cargo configuration), or a combination of the two (combination configuration), at ranges greater than 3,000 miles at Mach 0.8 cruise speed. The ability to simultaneously carry cargo pallets and passengers maximizes operational capability, safety, and capacity. C-40A features include a new wing with an advanced-technology airfoil; an electronic flight deck fully compliant with future communications, navigation, and air traffic control architectures; advanced-technology Stage III noise-compliant, fuel-efficient engines; and an integral cargo door/cargo handling system. Maximum gross take-off weight is 171,000 pounds. Until reaching the C-40 aircraft inventory objective, C-9 aircraft will need Communication/Navigation System (CNS) updates in order to comply with Global Air Traffic Management/International Country requirements.

Status

There are currently nine aircraft in inventory. The Navy is purchasing the aircraft using standard best commercial practices and seven more aircraft are currently planned across the FYDP. Three aircraft are stationed in Fort Worth, Texas; Jacksonville, Florida; and San Diego, California. Three aircraft will be stationed in North Island, California, as it becomes the third C-40 base with a projected transition completion date this year.

Developers

Boeing; Seattle, Washington

CH-53K Heavy Lift Replacement (HLR)

Description

The CH-53K is the planned follow on to the Marine Corps CH-53E Heavy Lift Helicopter. Major systems improvements of the newly manufactured helicopter will include larger and more capable engines, expanded gross weight airframe, drive train, advanced composite rotor blades, modern interoperable cockpit, external and internal cargo handling systems, and survivability. The CH-53K will be capable of externally lifting 27,000 pounds on a "Sea Level Hot" day (103° Fahrenheit) to a range of 110 nautical miles and dropping this cargo in a landing zone at a pressure altitude of 3,000 feet at 91.5 degrees Fahrenheit, a capability improvement that more than doubles the current CH-53E abilities under the same conditions. Additionally, the CH-53K will be capable of carrying a normal load of 32 combat loaded troops, with a maximum capacity of 48 troops. The CH-53K supports the Joint Operations Concept of Full Spectrum Dominance, and *Sea Power 21* by enabling rapid, decisive operations and the early termination of conflict by projecting and sustaining forces to distant anti-access, area-denial environments. Expeditionary Maneuver Warfare (EMW) establishes the basis for the organization, deployment, and employment of the Marine Corps to conduct maneuver warfare and provides the doctrine to make Joint and Multinational operations possible. EMW operational concepts include Operational Maneuver From the Sea (OMFTS), Forcible Entry Operations, Sustained Operations Ashore (SOA), and Other Expeditionary Operations (OEO). Under these supporting concepts, there is a continuing need for a heavy-lift capability to support sea-based expeditionary operations. The current Marine Corps heavy-lift aircraft, the CH-53E (designed in the 1960s and introduced in 1980 as an engineering change proposal to the CH-53D), has subsequently developed significant fatigue life, interoperability, maintenance supportability, and performance degradation concerns. In order to support the MAGTF and the JTF in the 21st Century Joint environment, an improved CH-53 is required to maintain the Marine Corps' heavy-lift capability through the year 2025 and beyond. This aircraft must provide improvements in operational capability, interoperability, reliability, and maintainability, while reducing total ownership costs.

Status

CH-53K ORD approved by JROC Memo dated 9 December 2004. Milestone B Defense Acquisition Board was held on 31 October 2005. Program has been approved for entry into MS B System Development and Demonstration and has been designated an ACAT 1D. SDD contract award is planned for March 2006 and an IOC is planned for FY 2015. Once in full-rate production, the aircraft procurement rate will ramp-up to approximately 24 aircraft per year by FY 2015 The Marine Corps requirement is estimated at 156 aircraft; however, a planned DoN Sea Basing Requirements Study will Subsequently validate the procurement objective.

Developers

Sikorsky Aircraft Corporation; Stratford, Connecticut

KC-130J Hercules Tactical Tanker and Transport

Description

The KC-130 is a four-engine turbo-prop, multi-role, multi-mission tactical aerial refueler and tactical transport aircraft that supports all six functions of Marine Aviation and is well suited to meet the mission needs of the forward-deployed MAGTF. The Hercules is the only long-range assault support capability organic to the Marine Corps. This aircraft provides fixed-wing, rotary-wing, and tilt-rotor tactical in-flight refueling; rapid ground refueling of aircraft and tactical vehicles; assault air transport of air-landed or air-delivered personnel, supplies, and equipment; command-and-control augmentation; battlefield illumination; tactical aero medical evacuation; and combat search and rescue support. The KC-130J, with its increase in speed, altitude, range, performance, state-of-the-art flight station (which includes two head up displays (HUDs), night vision lighting, an augmented crew station, fully integrated digital avionics), enhanced air-to-air refueling capability, and aircraft survivability enhancements provides the MAGTF commander with multi-mission capabilities well into the 21st Century. An Allison AE2100D3 propulsion system with full-authority digital electronic control (FADEC), Dowty R391 advanced technology six-bladed propeller system, and a 250-knot cargo ramp and door capability completes the package.

Status

The KC-130F and KC-130R have been the workhorses for assault support for the past 40 years. The KC-130J builds on this success and adds greater flexibility. This aircraft can be configured for cargo missions without losing the ability to conduct air refueling, or, if the mission dictates, it can be configured exclusively for refueling by adding an internal fuel tank. Additionally, the KC-130J can be used as a platform for the establishment of a Forward Arming and Refueling Point (FARP). The KC-130J provides increased reliability, capability and mission flexibility with its satellite communications system, survivability enhancements, night systems, and enhanced aircraft systems. The core of the improved communications suite is the ARC-210 radio, which provides UHF and VHF anti-jamming features (HAVEQUICK and SINCGARS), as well as SATCOM. All radios are also enabled for encrypted communication. As a result, the KC-130J is capable of communicating with land, naval, and air forces of all Joint and Coalition services, further extending the capability of the MAGTF. The KC-130J also possesses an improved navigation suite consisting of dual INS and dual GPS, improved radar providing for weather and ground mapping modes, and a digitally displayed moving map.

Developers

Lockheed Martin; Marietta, Georgia

MV-22 Osprey Joint Advanced Vertical Aircraft

Description

The MV-22 Osprey is a tilt-rotor, Vertical/Short Take-Off or Landing (V/STOL) aircraft designed as the medium-lift replacement for the Vietnam-era CH-46E and CH-53D helicopters. The MV-22 design incorporates advanced technologies in composite materials, survivability, airfoil design, fly-by-wire controls, digital avionics and manufacturing. The MV-22 is capable of carrying 24 combat-equipped Marines or a 10,000-pound external load, and has a strategic self-deployment capability of 2,100 nautical miles with a single aerial refueling. It is superior to the CH-46E it replaces—twice the speed, three times the payload, and six times the range. The MV-22's 38-foot proprotor system and engine/transmission nacelle mounted on each wingtip allow it to operate as a helicopter for take-off and landing. Once airborne the nacelles rotate forward 90 degrees, transitioning the MV-22 into a high-speed (ca. 250 knots), high-altitude (ca. 25,000 feet), fuel-efficient turboprop aircraft. The MV-22 represents a revolutionary change in aircraft capability to meet expeditionary mobility needs for the 21st Century. A Special Operation Forces (SOF) variant, the CV 22, is under concurrent development.

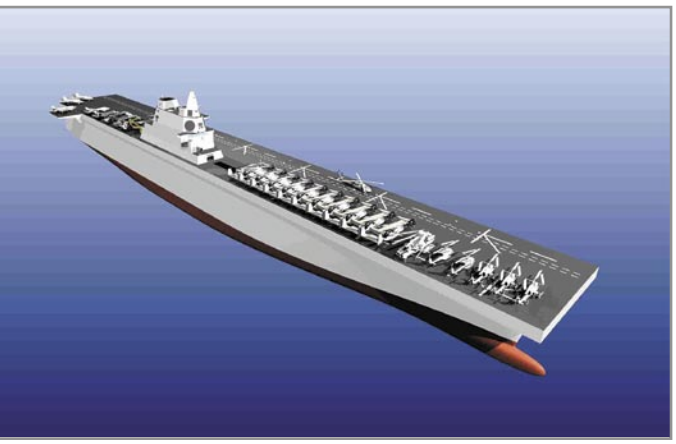
Status

The V-22 completed its Operational Evaluation (OPEVAL) in June 2005 and was found to be Operationally Suitable and Operationally Effective. The aircraft was subsequently approved for Milestone III and full-rate production in September 2005. The FY 2006 budget contains nine MV-22s and two CV 22s. Once in full-rate production, the aircraft procurement rate will ramp-up to approximately 48 MV/CV aircraft per year. Negotiations are underway to secure a multi-year contract with Bell-Boeing for the period FY 2008-FY 2012. The program of record includes 360 MV-22s for the Marine Corps, 50 CV 22s for USSOCOM, and 48 MV-22s for the Navy, for a total of 458 V-22 aircraft.

HMM-263 retired as a CH-46E squadron and entered the transition on 3 June 2005 to become the first operational VMM squadron (VMM-263). VMM-263 will deliver the IOC of the MV-22 Block B in 2007. The first block B aircraft was delivered on 8 December 2005.

Developers

Bell Helicopter Textron; Fort Worth, Texas
Boeing Defense and Space Group, Helicopter Division; Philadelphia, Pennsylvania
Rolls Royce; Indianapolis, Indiana



SURFACE AND EXPEDITIONARY WARFARE SHIPS AND CRAFT

LHA(R) General Purpose Amphibious Assault Ship (Replacement)

Description

The LHA(R) is a new acquisition program that will deliver a class of general-purpose amphibious assault ships. In support of the *Sea Power 21* global concept of operations, the LHA(R) class will provide forward-presence and power-projection capabilities as elements of U.S. expeditionary strike groups and strike forces. With elements of a Marine landing force, the LHA(R)-class will embark, deploy, land, control, support, and operate helicopters, landing craft, and amphibious vehicles for sustained periods. The LHA(R) will also support contingency-response, forcible-entry, and power-projection operations as an integral part of joint, interagency, and multinational maritime expeditionary forces. Based on evolutionary spiral development strategy that leverages evolving technologies and systems, the LHA(R)-class will replace four of the five *Tarawa* (LHA-1)-class that begin reaching the end of their expected service lives between 2011 and 2015. LHD 8, the final ship of the *Wasp* (LHD 1)-class will replace the first retiring *Tarawa*-class ship and will incorporate a gas turbine propulsion plant and all-electric auxiliaries. The first LHA replacement is being designed as a variant of the LHD 8. This ship will include LHD 8 enhancements (see the LHD 1 program summary) and a significant increase in aviation lift, sustainment, and maintenance capabilities; space for a MEB, PHIBGRU, or small-scale JTF staff; a dramatic increase in service life allowances for new-generation Marine Corps systems (MV-22, JSF); and substantial survivability upgrades.

Status

In 1999, the Navy conducted a development of options study that ruled out LHA Service Life Extension as a viable option. The Navy and Joint Staff approved and validated the LHA(R) Mission Needs Statement in March 2001, and OSD (AT&L) authorized Milestone A Acquisition Status and entry into Concept Exploration phase in July 2001. Under OSD guidance, the Navy conducted an analysis of alternatives to determine the best method of replacing the four remaining LHAs. This study, completed in September 2002, evaluated numerous design alternatives, including: (1) repeat LHD 8 with evolutionary modifications; (2) a longer and wider LHD 8 upgraded to operate the larger and heavier new-generation amphibious systems; and (3) several new ship designs spanning a wide range in size and capability. The Navy and Marine Corps leadership determined a modified LHD with greater aviation focus, including aviation facility enhancements in lieu of a well deck, provided the best balance of affordability, timing, and capability. JROC approval was obtained in February 2005 and Milestone B was reached in January 2006. The first LHA(R) was designated LHA 6 by the Under Secretary of the Navy in August 2005 with

hull numbers for subsequent ships in the LHA(R) program following sequentially. LHA 6 is planned for a FY 2007 contract award and delivery in FY 2012.

Developers
To be determined.

Joint High Speed Vessel (JHSV)

Description
The JHSV is an intra-theater lift capability prototyped by leased vessels such as Joint *Venture* (HSV-X1), *Swift* (HSV-2), and *WestPac* Express. These vessels have demonstrated the ability to rapidly embark and transport combat forces during Advanced Concept Technology Demonstration (ACTD) testing. In addition, they have participated in exercises and operations around the globe, including *Swift*'s deployment as part of Tsunami Relief and Hurricane Katrina disaster relief operations. JHSV is not an assault platform, but provides intra-theater lift capability for company-sized units, including personnel, equipment and supplies, in support of the Global War on Terrorism and theater security cooperation plans (TSCP).

Design and cost analysis of the JHSV is ongoing, but the leased vessels are capable of speeds in excess of 40 knots and ranges greater than 1,200 nautical miles fully loaded. In addition, the shallow draft characteristics enable them to operate effectively in littoral areas and access small, austere ports. Potential capabilities being evaluated, as part of the AoA, include some medical, command and control, and underway logistics support enhancements, as well as launch and recovery of MH-60S helicopters, rigid hull inflatable boats, and unmanned off-board vehicles.

Status
The JHSV program was formed by a merger of the Army Theater Support Vessel (TSV) and Naval High Speed Connector (HSC) programs to maximize common capabilities and form a joint platform solution. Navy has been designated the lead DOD component. The Initial Capabilities Document (ICD) was JROC approved in November 2005 and the AoA is expected to be completed late in 2005.

Developers
To be determined.

Landing Craft, Air Cushion (LCAC)

Description

This high-speed, fully amphibious landing craft is capable of carrying a 60-ton payload (75 tons in overload) at speeds in excess of 40 knots and a nominal range of 200 nautical miles. Its ability to ride on a cushion of air allows it to operate directly from the well decks of amphibious warships. Carrying equipment, troops, and supplies, the LCAC launches from the well deck, transits at high speed, traverses the surf zone and lands at a suitable place ashore where it quickly offloads and returns to amphibious shipping for follow-on sorties. LCACs provide Amphibious Task Force commanders flexibility in selecting landing sites, permitting access to more than 70 percent of the world's shores as compared with 17 percent for conventional landing craft. LCACs deliver vehicles and cargo directly onto dry land rather than in the surf zone, and have proved invaluable in support of Humanitarian Assistance/ Disaster Relief (HA/DR) missions including Tsunami Relief and Hurricane Katrina. LCACs are multi-mission craft that could also conduct alternate missions when outfitted with appropriate mission packages. A Service Life Extension Program (SLEP) to extend hull life from 20 to 30 years for 73 of the 82 active LCACs will be accomplished through FY 2017. Newer craft are being outfitted with C4I (radar and radios) system upgrades prior to entry into SLEP. As part of SLEP, the Navy will incorporate the following life enhancements:

- **An open-architecture concept, relying on modern commercial-off-the-shelf (COTS) equipment that will allow much easier incorporation of later technology changes, such as the precision navigation system and communications systems, fully interoperable with in-service and near-term future joint systems now planned;**
- **Engine upgrades (ETF-40B configuration) that will provide additional power and lift, particularly in hot (100° Fahrenheit and higher) environments, reduced fuel consumption, reduced maintenance needs, and reduced lift footprint;**
- **Refurbishment of the buoyancy box and some of the rotating machinery in order to solve corrosion problems, incorporate hull improvements, and "reset" the fatigue-limit "clock"; and**
- **Incorporation of a new (deep) skirt that will reduce drag, increase performance envelope over water and land, and reduce maintenance requirements.**

Status

IOC was achieved in 1986. Contracts for 91 LCACs were approved through FY 1997, with all 91 craft delivered to the fleet by the end of 2000. Nine that were in Deep Reduced Operating Status (03ROS) are being terminated in FY 2006 for cost reasons, and two are held for R&D. The LCAC SLEP began in late 2000. Six SLEPs are planned each year FY 2006-FY 2014.

Developers
Textron Marine and Land Systems; New Orleans, Louisiana
Avondale Marine; Gulfport, Mississippi

Seabase to Shore Connector (SSC), LCAC Replacement

Description
The SSC is envisioned to provide high-speed, heavy-lift for over-the-horizon maneuver, surface lift, and shipping. The LCAC SLEP (see LCAC program summary) is capable of lifting 72 tons (75 in overload) in extreme environmental conditions. The SSC is expected to carry up to 144 tons, thus increasing capacity while reducing manning requirements. One candidate solution would be up to 50 percent longer than the LCAC, with enhanced lift fans and propellers and composite materials technology. These design goals, if realized, would allow the SSC a 100 percent load capacity increase in armored combat vehicles (tanks and light armored vehicles) and heavy logistics loads. Engineering and cost analysis must be conducted to determine whether this candidate is a feasible solution.

Status
The Initial Capabilities Document (ICD) is anticipated to be completed in FY 2006. Research, Development, Test and Evaluation (RDT&E), including the AoA, will begin in FY 2006, and Fleet Introduction of the first craft is anticipated to occur in the FY 2015-2016 time period.

Developers
To be determined.

LHD Wasp-Class Amphibious Assault Ship

Description
The *Wasp* (LHD 1)-class comprises eight 40,650-ton full-load, multi-purpose amphibious assault ships whose primary mission is to provide embarked commanders with command and control capabilities for sea-based maneuver/assault operations as well as employing elements of a landing force through a combination of helicopters and amphibious vehicles. The *Wasp*-class also has several secondary missions, including power projection and sea control. The LHD 1 ships increase total lift capacity by providing both a flight deck for helicopters and Vertical/Short Take-Off or Landing (V/STOL) aircraft, such as the AV-8B Harrier and the MV-22 Osprey, and a well deck for both air-cushioned and conventional landing craft. Each ship can embark 1,877 troops (surge) and has 125,000 cubic feet of cargo for stores and ammunition and 20,900 square feet for vehicles. Medical facilities include six operating rooms, an intensive-care unit, and a 47-bed ward. LHDs 5-7 are modified variants of the class, and design changes include: increased JP-5 fuel capacity, C4ISR and self-defense improvements, fire-fighting and damage-control enhancements, and Women-at-Sea accommodations. The Navy awarded the LHD 8 construction contract in April 2002. The ship has significant design changes that

incorporate gas-turbine (GT) propulsion and all-electric auxiliary equipment. GT propulsion was considered for LHD 5 (keel laid in April 1991), but the technology of the time would have required four GT plants that would have significantly reduced internal volume for other vital needs. Since then, GT power-ratings have increased such that just two GTs are needed to generate the required 70,000 shaft-horsepower (the earlier ships have two steam plants and geared turbines). Otherwise, LHD 8 will be a modified-repeat of LHD 7 (a state-of-the-practice ship), except for changes made necessary because some older systems are no longer available.

Status

Seven LHDs have been delivered to the Fleet. The newest LHD, the USS *Iwo Jima* (LHD 7), was commissioned on 30 June 2001. The eighth ship of the class, USS *Makin Island* (LHD 8) is under contract, and the Navy anticipates delivery of the ship in FY 2007.

Developers

Northrop Grumman Ship Systems; Pascagoula, Mississippi

LPD 17 San Antonio-Class Amphibious Transport Dock Ship

Description

The *San Antonio* (LPD 17)-class is an amphibious transport dock ship optimized for operational flexibility and designed to meet MAGTF lift requirements in the emerging Expeditionary Maneuver Warfare concept of operations. The *San Antonio*-class is 684 feet in length, with a beam of 105 feet, a maximum displacement of 25,000 long tons, and a crew of approximately 360. Four turbocharged diesels with two shafts and two outboard-rotating controllable-pitch propellers will generate a sustained speed of 22-plus knots. Other ship characteristics include 25,000 square feet of space for vehicles (more than twice that of the *Austin* (LPD 4)-class), 34,000 cubic feet for cargo, accommodations for approximately 720 troops (800 surge), and a medical facility (24 beds and four operating rooms-two medical and two dental). The aft well deck can launch and recover traditional surface assault craft as well as two landing craft air cushion (LCAC) vehicles, capable of transporting cargo, personnel, Marine vehicles, and tanks, and the Marine Corps' new Expeditionary Fighting Vehicle (EFV). The LPD 17 aviation facilities include a hangar and flight deck (33 percent larger than *Austin*-class) in order to operate and maintain a variety of aircraft, including current and future rotary-wing aircraft. Other advanced features include the Advance Enclosed Mast/Sensor (AEM/S) for reduced signature/sensor maintenance, reduced-signature composite-material enclosed masts, other stealth enhancements, state-of-the-art C4ISR and self-defense systems, a Shipboard Wide-Area Network (SWAN) that will link shipboard systems and embarked Marine Corps platforms, and significant quality of life improvements.

Reducing Total Ownership Costs (TOC) has been and will remain an important factor in the program's efforts. By introducing

a variety of new approaches to streamlining the acquisition process and taking advantage of numerous "SmartShip" initiatives to optimize (not simply reduce) manning through focused human-factors engineering and thus enhance operational capabilities, the Navy estimates that it shaved about $4.5 billion from the program's TOC. Manning and human-systems integration issues are absolutely essential, as some approximately 40 percent of a ship's life cycle, cradle-to-grave cost is directly linked to its crew.

With the *Tarawa* (LHA-1)-class, *Wasp* (LHD 1)-class, LHA Replacement [LHA(R)]-class amphibious assault ships, and the 12 LSDs; the Navy has the foundation for lifting both the Marine Expeditionary Brigade Assault Echelons (MEB AE) and to sustain the forward deployments of three Marine Expeditionary Units (special operations capable) (MEU SOC).

Status

The initial contract award to design and build the lead ship of the class was awarded to the Avondale-Bath Alliance in December 1996. A contract award protest was successfully resolved in April 1997. LPD 17 class workload was transferred from Bath Iron Works to Northrop Grumman Ship Systems (NGSS) in June 2002. LPDs 17 through 21 are under construction:

> ***San Antonio*** **(LPD 17), was delivered in July 2005 and was commissioned in January 2006.**

> ***New Orleans*** **(LPD 18), started construction in February 2002, and was delivered in December 2005.**

> ***Mesa Verde*** **(LPD 19), started construction at NGSS Pascagoula in August 2002, and is expected to deliver in 2006.**

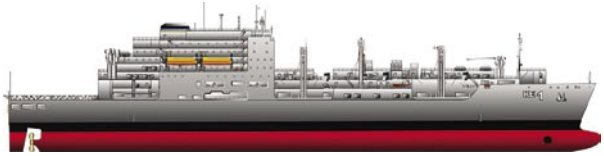
> ***Green Bay*** **(LPD 20), started construction in March 2003 and is expected to deliver in 2007.**

> ***New York*** **(LPD 21), started construction in March 2004 and is expected to deliver in 2008.**

Contract negotiations for *San Diego* (LPD 22) and *Anchorage* (LPD 23), and LPD 24 are ongoing. LPD 24 and LPD 25 are named *Arlington* and *Somerset* respectively to honor the heroes and victims of the 11 September 2001 Pentagon attack and the flight downed in Pennsylvania.

Developers

Northrop Grumman Ship Systems Avondale Operations;
New Orleans, Louisiana
Ingalls Operations; Pascagoula, Mississippi
Raytheon; San Diego, California
Intergraph; Huntsville, Alabama



MPF(F) Maritime Prepositioning Force (Future)

Description

Current MPF ships have limited interoperability with naval shipping and cannot provide direct and continuous sustainment after ship-offload. Today's MPF ships offload at a port or across a beach, and equipment is married with Fly-in Echelon (FIE) personnel and equipment from shore based Marine Expeditionary Units or Brigades (MEUs/MEBs). In order to meet future *Sea Power 21* sea-basing needs, SECNAV selected a hybrid MPF(F) squadron on 24 May 2005. The squadron is comprised of three large deck amphibious ships, six cargo ships, three new design "float-on/float-off" ships, two LHA(R)s, 1 LHD, three LMSRs, three T-AKEs, three Mobile Landing Platforms (MLPs) and two legacy Maritime Prepositioning ships. Compared to the current MPF fleet, the MPF (F) squadron will have additional capabilities to satisfy ship-to-objective-maneuver (STOM) and operational maneuver... from the sea (OMFTS) mission requirements, including:

- **Selective off-load, which will enable Marine Expeditionary Brigades to select equipment tailored for specific STOM and OMFTS missions**
- **The ability to form a Maritime Prepositioning Group (MPG) as part of the Sea Base in support of expeditionary and carrier strike group operations**
- **The capability to provide joint sustainment in direct support of joint forces tasked with STOM and OMFTS tasks**
- **The capability to reconstitute in the Joint Operations Area (JOA) and to redeploy directly to another JOA**
- **MPF(F)s will provide operational and logistical support from the sea for Marines and joint forces ashore as well as naval forces afloat. Optimizing sea-based capabilities will significantly reduce assured-access and sovereignty challenges by reducing footprint ashore.**

MPF(F)s will transform the MPS-supported Marine Expeditionary Brigade from a fighting unit effective ashore to one that can operate continuously from a sea base without the need to transition support elements to land. MPF(F) will also support rapid reconstitution and redeployment for follow-on missions.

MPF(F)'s transformational characteristics include significant improvements in force closure, sustainment, selective offload, command and control, and reconstitution. MPF(F) will be interoperable with current amphibious task force shipping via surface transport (LCAC), underway replenishment stations, and compatible C4I systems. MPF(F) has the potential to support joint operations and will be interoperable with joint forces support capabilities. MPF(F) will transform naval logistics into a seamless and integrated system that will complement current Combat Logistics Forces by providing sea-based logistics to all naval forces. This ability could include cargo transshipment from intermodal shipping to other naval ships or ashore. While independent forcible entry is not a mission envisioned, MPF(F) will be able to

directly support a committed expeditionary strike group and apply forces directly where required.

Status
The MPF (F) Capabilities Description Document (CDD) is in the final stages of draft, and intended for submittal into the formal Joint Capability and Integration Development System (JCIDS) in January 2006. Detailed studies are concurrently underway, supporting CDD development survivability, logistics concepts of operations, sustainment, and more. Every effort is being made to ensure the Navy/Marine Corps team delivers this on time as global requirements for access, speed, and persistence continue to mount. Award of the lead ship contract is expected in FY 2009 (with advance procurement in FY 2008). This schedule will provide for a squadron initial operational capability in FY2020.

Developers
To be determined.

EQUIPMENT AND MATERIAL

Cargo Offload and Discharge System (COLDS)

Description
The COLDS includes the Cargo Offload and Transfer System (COTS) for dry cargo and the Offshore Bulk Fuel System (OBFS) for liquid cargo. COLDS supports Logistics-Over-The-Shore (LOTS) operations-the loading and unloading of Marine Corps Maritime Pre-positioning Force (MPF) and Assault Follow-On Echelon (AFOE) ships-in the absence of established port facilities.

Status
Routine replacement of these assets maintains LOTS readiness. After the Army withdrew from development and acquisition of a sea-state-three-capable Joint Modular Lighterage System (JMLS), the Navy leveraged research and development technology from the JMLS program to procure a replacement system called the Improved Navy Lighterage System (INLS) which is required to replace less capable assets that have reached the end of their service life. This system will support current near shore MPF operations, but is not envisioned as the delivery vehicle for MPF Future assets. Ongoing research and development efforts (i.e., shipboard cranes) will provide increased operational LOTS capability. Prototype testing on INLS and associated subsystems was completed in FY 2003. The Navy awarded the contract for INLS low-rate production in FY 2003. Delivery was in October 2005 and is currently undergoing Developmental Testing through March 2006. Operation Evaluation Testing (OPEVAL) is scheduled to begin April 2006 and full-rate production will begin at the conclusion of OPEVAL, around May/June 2006. Fielding to MPF will begin in FY 2007.

Developers
Marinette Marine; Marinette, Wisconsin
Oldenburg; Lakeshore, Wisconsin

Naval Mobile Construction Battalion (NMCB) Tables of Allowance (ToA)

Description

Naval Construction Force elements provide engineering and combat construction support to MAGTF. In support of Sea Strike and Sea Basing missions, the Navy/Marine Corps Team projects power from the sea with a rapid flow of maneuver forces ashore, using roads, expeditionary airfields, force-protection structures, intermediate staging bases, and advanced logistics bases. Forward deployment of NMCBs enables the surge of task-tailored engineer forces and equipment sets to enhance the MAGTF and other naval and joint forces on land. In operations other than war, forward-deployed NMCBs hone construction skills through humanitarian assistance and disaster-recovery operations, participate in foreign engagement exercises, and complete construction projects that support sustainment, restoration, and modernization of the Navy's forward bases and facilities.

Status

The Navy has developed a long-range plan to recapitalize the Tables of Allowance (ToA) of all Seabee units. The initial priority is to correct existing inventory deficiencies and replace aging tools and equipment that are no longer parts supportable. During the next several years, the ToAs will be outfitted with modern and recapitalized tactical vehicles, construction and maintenance equipment, communications gear, infantry items, and field support equipment.

Developers

Multiple sources.

SUBMARINE ESCAPE AND RESCUE

Survivability

Description
Today's submarine Sailors use passive means to remove carbon dioxide from a disabled submarine's atmosphere, enabling survival up to seven days. Current development includes improving passive scrubbing capability and more accurately monitoring a disabled submarines atmosphere.

Status
Installation of passive scrubbing curtains onboard all submarines is nearing completion. Procurement and installation of SUB MKII Phyperbaric analyzers onboard all submarines has just commenced.

Developers
Battelle Memorial Institute; Columbus, Ohio
Analox Sensor Technology; Stokesley, United Kingdom

Escape (SEIE)

Description
To facilitate emergency escape from depths down to 600 feet, all submarines are being outfitted with the Mark 10 Submarine Escape Immersion Equipment (SEIE) suit and improved hatch operating systems. In addition to increasing the depth capabilities of escape, the suit provides thermal protection and individual life rafts for surface abandonment or escape.

Status
Installation nears completion for the 688-class, while the installations for the 726-and 21-class begin in early 2006. The 774-class is receiving SEIE suits upon initial outfitting following construction.

Developers
Beaufort Air-Sea Equipment; Merseyside, United Kingdom

Rescue (DSRV, SRC, SRDRS)

Description

The Navy's Deep Submergence Rescue Vehicle (DSRV) and Submarine Rescue Chamber (SRC) provide the service's current capabilities for submarine rescue. These systems are designed for quick deployment in the event of a submarine accident. They are transportable by truck, aircraft, ship, and, for the DSRV, by specially configured "mother" submarines. The Navy is developing a new rescue system called the Submarine Rescue Diving Recompression System (SRDRS). SRDRS is a manned submersible capable of rapid, worldwide deployment on vessels of opportunity. The SRDRS overcomes a significant deficiency of current systems enabling personnel transfer under pressure and decompression for submarine disaster survivors. SRDRS will be a government-owned government/contractor-operated system, and will provide increased capability at reduced costs compared to legacy rescue systems.

Status

Critical design review for the SRDRS rescue vehicle is completed for the pressurized rescue module and it is in production. The SRDRS is scheduled to be rescue-ready to replace the DSRV in FY 2007, with a transfer under pressure capability introduced in FY 2009.

Developers

OceanWorks International; Vancouver, California
Oceaneering International; Upper Marlboro, Maryland
Southwest Research Institute; San Antonio, Texas